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ROSS D. SNYDER & ASSOCIATES, INC.
PO BOX 164075
AUSTIN, TX 78716-4075

EXAMINER	
PUENTE, EMERSON C	

ART UNIT	PAPER NUMBER
2113	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,722	BENHAMOU ET AL.	
	Examiner	Art Unit	
	EMERSON C. PUENTE	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-33,35-48,50,51 and 53-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-33,35-48,50,51,53 and 54* is/are rejected.

7)☒ Claim(s) *55* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is made **Non-Final** after RCE.

Claims 1-8,10-33,35-48,50,51 and 53-55 have been examined. Claims 9,34,49, and 52 have been cancelled.

Claim Objections

Claims 36 and 55 are objected to because of the following informalities:

Claim 36 is dependent on a cancelled claim. Please cancel the claim or change the dependency.

Regarding claim 55, please amend "the protection system element" to "a protection system element" as the limitation lacks antecedent basis (see line 13 of claim).

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-8,10-33,35-48,50,51 and 53 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 1-8,10-33,35-48,50,51 and 53, a method claim must meet a specialized, limited meaning to qualify as a patent-eligible process claim. The test for a method claim is whether the claimed method is (1) tied to a particular machine

or apparatus, *or* (2) transforms a particular article to a different state or thing. This is callcd the "machine-or-transformation test". See *In re Bilski,* 545 F.3d 943, 88 USPQ2d 1385 (Fed Cir. 2008). There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent- eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step, such a data gathering or outputting, is not sufficient to pass the test. The instant claims neither transform a particular article nor positively tie to a particular machine or apparatus that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-8,10-33,35 and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the limitation "wherein identifying the failure predicted one of said protected system elements includes accessing performance of said protected system elements based....at least partially on a protection switching priority for at least a portion of said protected system elements". However, the specification discloses "... when a plurality of failure predicted cards have been identified, an operation 120 is performed for determining a protection switching priority among the plurality of failure predicted cards" (see paragraph 18). As such, identification of the failure is not based on protection switching priority. Rather, protection switch priority is determined after identification of the failure.

The remaining claims, not specifically mentioned, are rejected for being dependent upon claim 1 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 37,42,44-48,50, and 51 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over US Patent No. 6,978,398 of Harper et al. referred hereinafter "Harper '398" in view of US Patent No. 4,245,342 of Entenman.

Examiner notes that Harper '398 (see column 1 lines 8-12) incorporates by reference US Patent No. 6, 629,266 of Harper et al. referred hereinafter "Harper '266", which is introduced in the rejection below.

In regards to claim 37, Harper '398 discloses a method of facilitating protection switching, comprising:

monitoring a failure prediction parameter of at least one (see column 9 lines 15-20 of incorporated by reference Harper '266) of the plurality of protected system elements (see column 4 lines 23-27 and figure 2 of Harper '266)

correlating a present state of the failure prediction parameter to a failure prediction criterion for determining whether one of said protected system elements has met a failure prediction condition, thereby identifying a failure predicted one of a plurality of protected system elements when the failure prediction condition is met (see column 9 lines 15-20 of incorporated by reference Harper '266)

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 2 lines 23-26)

confirming failure of the failure predicted one of said protected system elements; and switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after confirming said failure (see column 2 lines 23-26 and column 6 lines 1-5 and 18-25)

However, Harper '398 fails to explicitly disclose:

determining that a protection switching priority among a collection of failure predicted system elements applies to the failure predicted one of said protected system elements, wherein downloading said service information is performed after determining that the protection switching priority applies to the failure predicted one of said protected system elements;

Entenman further discloses in case of multiple failures, allotting a spare device among the devices in accordance with a priority algorithm (see column 6 lines 38-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Entenman to allot a spare device among the devices in accordance with a priority algorithm, thus indicating determining that a protection switching priority among a collection of failure predicted system elements applies to the failure predicted one of said protected system elements, wherein downloading said service information is performed after determining that the protection switching priority applies to the failure predicted one of said protected system elements. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with degradation of performance (see column 1 lines 60-61), and allotting a spare device among the devices in accordance with a priority algorithm, as per teachings of Entenman (see column 6 lines 38-42), constitutes as suitable known means for overcoming performance degradation by enabling recovery to the highest priority device.

In regards to claim 42, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses wherein correlating includes determining that a failure prediction parameter corresponding to a service agreement parameter for one of said protected system elements has declined to a predetermined minimal acceptable service agreement parameter level (see column 9 lines 10-15 and column 10 lines 12-15 of incorporated by reference Harper '266).

In regards to claim 44, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the protection system element provides protection switching functionality exclusively for all of said protected system elements (see column 2 lines 23-26).

In regards to claim 45, Harper '398 discloses a method of facilitating protection switching, comprising:

facilitating a protection switching configuration operation wherein a failure prediction condition for at least a portion of a plurality of protected system elements is defined (see column 2 lines 23-26);

facilitating a failure confirmed protection switching operation in response to identifying that the failure prediction condition for one of said protected has been met during operation of said protected system elements (see column 6 lines 18-25);

facilitating an administrator-initiated protection switching operation in response to receiving an administrator-issued protection switching initiation notification (see column 4 lines 20-22 of incorporated by reference Harpter '266) .

However, Harper '398 fails to explicitly disclose:

specifying a protection switching priority for at least a portion of said protected system elements.

Entenman further discloses in case of multiple failures, allotting a spare device among the devices in accordance with a priority algorithm (see column 6 lines 38-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Enteman to allot a spare device among the devices in accordance with a priority algorithm, thus indicating specifying a protection switching priority for at least a portion of said protected system elements. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with degradation of performance (see column 1 lines 60-61), and allotting a spare device among the devices in accordance with a priority algorithm, as per teachings of Entenman (see column 6 lines 38-42), constitutes as suitable known means for overcoming performance degradation by enabling recovery to the highest priority device.

In regards to claim 46, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses associating each one of said protected system elements with the protection system element (see column 6 lines 39-42) and specifying failure prediction criterion for each of said protected system elements (see column 9 lines 7-14 of incorporated by reference Harper '266).

In regards to claim 47, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses wherein specifying said

failure prediction criterion includes specifying a first type of failure prediction criterion for a first portion of said protected system elements and a second type of failure prediction criterion for a second portion of said protected system elements (see column 9 lines 6-10 of incorporated by reference Harper '266).

In regards to claim 48, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses wherein specifying said failure prediction criterion includes specifying said failure prediction criterion on a per protected system element basis (see column 4 lines 10-15 and column 6 lines 32-37).

In regards to claims 50, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses:

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 2 lines 23-26);

confirming failure of the first failure predicted one of said protected system elements (see column (see column 6 lines 20-25); and

switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after confirming said failure (see column 6 lines 20-25).

In regards to claims 51, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses determining that a protection switching priority among a collection of failure predicted system elements

applies to the failure predicted one of said protected system elements prior to downloading said service information (see column 6 lines 38-42).

Claims 1-3,5,6,10,12-23,27,29-33,35,36,38,40,41,and 43 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over Harper '398 (which incorporates by reference Harper '266) in view of Entenman and US Patent No. 4,769,761 of Downes et al. referred hereinafter "Downes".

In regards to claim 1, Harper '398 discloses a method of facilitating protection switching, comprising:

identifying a failure predicted one (see column 2 lines 19-23) of a plurality of protected system elements (see column 4 lines 23-27); and

implementing a protection switching operation for switching designated information from the failure predicted one of said protected system elements to a protection system element (see column 2 lines 23-26).

However, Harper '398 fails to explicitly disclose:

wherein identifying the failure predicted on of said protected system elements includes assessing performance of said protected system elements based at least partially on an element demerit point level of each one of said protected system elements

and at least partially on a protection switching priority for at least a portion of said protected system elements.

Entenman further discloses in case of multiple failures, allotting a spare device among the devices in accordance with a priority algorithm (see column 6 lines 38-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Entenman to allot a spare device among the devices in accordance with a priority algorithm, thus indicating at least partially on a protection switching priority for at least a portion of said protected system elements. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with degradation of performance (see column 1 lines 60-61), and allotting a spare device among the devices in accordance with a priority algorithm, as per teachings of Entenman (see column 6 lines 38-42), constitutes as suitable known means for overcoming performance degradation by enabling recovery to the highest priority device.

Downes further discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (see column 1 lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein identifying the failure predicted on of said protected system elements includes assessing performance of said protected system elements based at least partially on an element demerit point level of each one of said protected system elements. A person of

ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-61), and monitoring the error count over a selected number of operations, as per teachings of Downes (see column 1 lines 60-65), constitutes as suitable known means to detect degradation of performance of a computer system.

In regards to claim 2, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes assessing at least one of a plurality of failure prediction parameters of said protected system elements for determining when a failure prediction condition has been met by one of said protected system elements (see column 9 lines 15-20 of incorporated by reference Harper '266).

In regards to claim 3, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses

monitoring a failure prediction parameter of at least one of the plurality of protected system elements (see column 9 lines 15-20 of incorporated by reference Harper '266); and

correlating a present state of the failure prediction parameter to a failure prediction criterion for determining whether the failure prediction parameter has met a failure prediction condition (see column 9 lines 15-20 of incorporated by reference Harper '266).

In regards to claim 5, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the monitoring the failure prediction parameter further comprises bridging the protection system element across the at least one of the plurality of the protected system elements (see column 6 lines 13-17).

In regards to claim 6, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the monitoring the failure prediction parameter further comprises sequentially bridging the protection system element across each of the plurality of the protected system elements (see column 4 lines 23-27 and column 6 lines 13-17).

In regards to claim 10, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein assessing performance of said protected system elements includes determining when an element demerit point level of one of said protected system elements has exceeded a predetermined element demerit point threshold limit (see column 1 lines 60-65).

In regards to claim 12, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein the element demerit point level corresponds to a quantity of element demerit points accumulated over a designated period of time (see column 1 lines 60-65).

In regards to claim 13, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein identifying the failure predicted one of said protected system elements includes determining that a

rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change (see column 1 lines 60-65).

In regards to claim 14, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter corresponding to a service agreement parameter for one of said protected system elements has declined to a predetermined minimal acceptable service agreement parameter level (see column 9 lines 10-15 and column 10 lines 12-15 of incorporated by reference Harper '266).

In regards to claim 15, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses determining that a protection switching priority among a collection of failure predicted system elements applies to the failure predicted one of said protected system elements (see column 6 lines 38-42).

In regards to claim 16, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses wherein implementing the protection switching operation is initiated after determining that the protection switching priority applies to the failure predicted one of said protected system elements (see column 6 lines 38-42).

In regards to claim 17, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses

wherein determining that the protection switching priority applies to the failure predicted one of said protected system elements includes assessing a protection switching priority parameter for each system element of the collection of failure predicted system elements (see column 6 lines 38-42).

In regards to claim 18, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein assessing the protection switching parameter includes assessing at least one of a parameter relating to element demerit points, a parameter relating to a rate of change of said element demerit points, a parameter relating to an element demerit point threshold limit, a parameter relating to a number of active connections, a parameter relating to a number of active service subscribers, a parameter designated in a service agreement, a mounted position in a network element, an administrator-assigned priority value, a data bit rate and a rate of change of the data bit rate (see column 1 lines 60-65).

In regards to claim 19, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 6 lines 14-17);

confirming failure of the first failure predicted one of said protected system elements (see column 6 lines 18-25); and

switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after confirming said failure (see column 6 lines 21-25).

In regards to claim 20, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses determining that a protection switching priority among a collection of failure predicted system elements applies to the failure predicted one of said protected system elements (see column 6 lines 38-42). Harper '398 further discloses downloading service information of the failure predicted one of said protected system elements is performed after determining that the protection switching priority applies to the failure predicted one of said protected system elements (see column 6 lines 14-17).

In regards to claim 21, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses wherein determining that the protection switching priority applies to the failure predicted one of said protected system elements includes assessing a protection switching priority parameter for the collection of failure predicted system elements (see column 6 lines 38-42).

In regards to claim 22, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein assessing the protection switching parameter includes assessing at least one of a parameter relating to element demerit points, a parameter relating to a rate of change of said element demerit points, a parameter relating to an element demerit point threshold limit,

a parameter relating to a number of active connections, a parameter relating to a number of active service subscribers, a parameter designated in a service agreement, a mounted position in a network element, an administrator-assigned priority value, a data bit rate and a rate of change of the data bit rate (see column 1 lines 60-65).

In regards to claim 23, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the protection system element provides protection switching functionality exclusively for all of said protected system elements (see column 6 lines 35-40).

In regards to claim 27, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266).

In regards to claim 29, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the protection system element provides protection switching functionality exclusively for all of said protected system elements (see column 6 lines 35-37).

In regards to claim 30, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses configuring

protection switching variables associated with the protection switching operation (see column 9 lines 7-14 of incorporated by reference Harper '266).

In regards to claim 31, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

associating each one of said protected system elements with the protection system element (see column 6 lines 39-42); and

specifying failure prediction criterion for each of said protected system elements (see column 9 lines 7-14 of incorporated by reference Harper '266).

In regards to claim 32, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein specifying said failure prediction criterion includes specifying a first type of failure prediction criterion for a first portion of said protected system elements and a second type of failure prediction criterion for a second portion of said protected system elements (see column 9 lines 6-10 of incorporated by reference Harper '266).

In regards to claim 33, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein specifying said failure prediction criterion includes specifying said failure prediction criterion on a per protected system element basis (see column 4 lines 10-15 and column 6 lines 32-37 and column 9, lines 7-14 of Harper '266).

In regards to claim 35, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes

assessing a protection switching operation initiation notification issued via a system administrator user interface (see column 4 lines 20-22 of incorporated by reference Harper '266).

In regards to claim 36, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 6 lines 14-17);

switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after downloading said service information (see column 6 lines 21-25).

In regards to claim 38, Harper '398 in view of Entenman discloses the claim limitations as discussed above. However, Harper in view of Entenman fails to explicitly disclose:

wherein correlating includes determining that an element demerit point level of one of said protected system elements has exceeded a predetermined element demerit point threshold limit

Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (see column 1 lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein correlating includes determining that an element demerit point level of one of said protected system elements has exceeded a predetermined element demerit point threshold limit. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-61), and monitoring the error count over a selected number of operations, as per teachings of Downes (see column 1 lines 60-65), constitutes as suitable known means to detect degradation of performance of a computer system.

In regards to claim 40, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein the element demerit point level corresponds to a quantity of element demerit points accumulated over a designated period of time (see column 1 lines 60-65).

In regards to claim 41, Harper '398 in view of Entenman discloses the claim limitations as discussed above. However, Harper in view of Entenman fails to explicitly disclose:

wherein correlating includes determining that a rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change limit threshold.

Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (see column 1 lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein correlating includes determining that a rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change limit threshold. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-61), and monitoring the error count over a selected number of operations, as per teachings of Downes (see column 1 lines 60-65), constitutes as suitable known means to detect degradation of performance of a computer system.

In regards to claim 43, Harper '398 in view of Entenman discloses the claim limitations as discussed above. However, Harper in view of Entenman fails to explicitly disclose:

wherein determining that the protection switching priority applies to the failure predicted one of said protected system elements includes assessing at least one of a parameter relating to element demerit points, a parameter relating to a rate of change of said element demerit points, a parameter relating to an element demerit point threshold

limit, a parameter relating to a number of active connections, a parameter relating to a number of active service subscribers, a parameter designated in a service agreement, a mounted position in a network element, an administrator-assigned priority value, a data bit rate and a rate of change of the data bit rate.

Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (see column 1 lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein determining that the protection switching priority applies to the failure predicted one of said protected system elements includes assessing at least one of a parameter relating to element demerit points, a parameter relating to a rate of change of said element demerit points, a parameter relating to an element demerit point threshold limit, a parameter relating to a number of active connections, a parameter relating to a number of active service subscribers, a parameter designated in a service agreement, a mounted position in a network element, an administrator-assigned priority value, a data bit rate and a rate of change of the data bit rate. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-61), and monitoring the error count over a selected number of operations, as per teachings

of Downes (see column 1 lines 60-65), constitutes as suitable known means to detect degradation of performance of a computer system.

Claims 11, 24-26, 28, and 39 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over Harper '398 (which incorporates by reference Harper '266) in view of Entenman, Downes, and US Patent No. 6,771,440 of Smith.

In regards to claims 11 and 39, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

wherein the predetermined element demerit point threshold limit is associated with a first level of failure probability, lower than an element demerit point threshold limit corresponding to a next higher level of failure probability.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 6-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, indicating wherein the predetermined element demerit point threshold limit is associated with a first level of failure probability, lower than an element demerit point threshold limit corresponding to a next higher level of failure probability. A person of ordinary skill in the art could have been motivated to combine the teachings

because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

In regards to claims 24, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266);

Harper further discloses said switching communication service is initiated in response to determining the protected system element has failed. Harper discloses if it is determined that the primary node has failed, then the process continues at which time the secondary node becomes the primary node (see column 6 lines 21-25).

However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

said switching communication service is initiated in response to the failure prediction parameter exceeding a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 6-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating said switching communication service is initiated in response to the failure prediction parameter exceeding a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

In regards to claim 25, Harper '398 in view of Downes, Entenman, and Smith discloses the claim limitations as discussed above. Smith further discloses:

wherein the failure prediction first threshold limit is associated with a first level of failure probability and the failure prediction second threshold limit is associated with a second level of failure probability higher than the first level of failure probability (see column 6 lines 12-13).

In regards to claim 26, Harper '398 in view of Downes, Entenman, and Smith discloses the claim limitations as discussed above. Harper '398 further discloses:

wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266);

Harper further discloses confirming failure includes determining the protected system element has failed (see column 6 lines 21-25).

However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 6-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second

threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

In regards to claim 28, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

wherein implementing said protection switching operation is performed in response to determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 6-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating wherein implementing said protection switching

operation is performed in response to determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

Claims 53 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over Harper '398 (which incorporates by reference Harper '266) in view of Entenman and Smith.

In regards to claim 53, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses:

wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266);

Harper further discloses confirming failure includes determining the protected system element has failed (see column 6 lines 21-25).

However, Harper '398 in view of Entenman fails to explicitly disclose:

confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 6-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

Claim 54 is rejected under 35 U.S.C. § **103(a)** as being unpatentable over Harper '398 (which incorporates by reference Harper '266) in view of Downes.

In regards to claim 54, Harper '398 discloses an apparatus capable of facilitating protection switching, comprising:

a plurality of protected system element(see column 4 lines 23-27).

a protection system element including a data processor and capable of providing protection switching functionality for at least one of said protected system elements (see column 2 lines 23-26).

a data processor program wherein the data processor program is capable of enabling the protection system elements to facilitate (see column 2 lines 23-26.)

identifying a failure predicted one (see column 2 lines 19-23) of a plurality of protected system elements (see column 4 lines 23-27).

implementing a protection switching operation for switching designated information from the failure predicted one of said protected system elements to a protection system element (see column 2 lines 23-26).

However, Harper fails to explicitly disclose:

wherein identifying the failure predicted on of said protected system elements includes determining the rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit.

Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (see column 1 lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein identifying the failure predicted on of said protected system elements includes determining the rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-61), and monitoring the error count over a selected number of operations, as per teachings of Downes (see column 1 lines 60-65), constitutes as suitable known means to detect degradation of performance of a computer system.

Allowable Subject Matter

Claim 55 would be allowable if rewritten or amended to overcome the Claim Objection set forth in this Office action.

The reason for allowance for claims 55 is the inclusion of correlating when anomalies in the failure prediction parameter are consistent across the plurality of protected system elements and when the anomalies in the failure prediction parameter are consistent across the plurality of the protected system elements, inferring a fault in

the protection system element in conjunction with the rest of the limitation set forth in the claim.

Response to Arguments

Applicant's arguments filed March 6, 2009 have been fully considered but they are not deemed to be persuasive.

In response to applicant's arguments, "deleting the 'error counts' upon which Downes apparently depends would prevent 'determining the rate of change of element demerit points...' even if the teachings of the cited portion of the Downes reference did disclose the subject matter alleged by the Examiner, which Applicant disputes," (see page 17 of Remarks), examiner respectfully disagrees.

Downes discloses the exception log, not error count is cleared (see column 1 lines 65). Downes further discloses error logging by integrating error counts over a selected number of operation (see column 1 lines 61-63), which constitutes "a rate of change of demerit points" and comparing the results with a criterion (see column 1 lines 61-63), indicating determining the rate of change of element demerit point has exceeded a predetermined element demerit point rate of change. Argument is moot. Examiner maintains his rejection.

In response to applicant's argument, "Applicant submits the cited portions of the cited references fails to teach or suggest ' identifying a failure predicted one of a plurality of protected system elements'," (see page 17 of Remarks) examiner respectfully disagrees. Harper discloses in a cluster system having more than two

nodes, the secondary node may not know which primary node is going to fail (see column 4 lines 23-27), implying more than one primary node. Harper further discloses a one to many relationship between secondary node and primary nodes (see figure 5b and column 6 lines 39-42), thus indicating identifying a failure predicted one of a plurality of protected system elements. Argument is moot. Examiner maintains his rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMERSON C. PUENTE whose telephone number is (571)272-3652. The examiner can normally be reached on 9-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Emerson C Puente/
Primary Examiner, Art Unit 2113